Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	CC Docket No. 92-91
Open Network Architecture Tariffs	)	
of Bell Operating Companies	)	

DIRECT CASE OF THE
AMERITECH OPERATING COMPANIES

RECEIVED

MAY 18 1992

Federal Communications Commission
Office of the Secretary

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INTRODUCTION AND SUMMARY

In an order released April 16, 1992 in the above-captioned docket,[1] the Common Carrier Bureau (Bureau) combined the investigations relating to Open Network Architecture (ONA) service rates instituted in several prior orders[2] and designated specific issues to be examined. By this direct case, the Ameritech Operating Companies[3] respond to the questions posed by the Bureau.

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[1] See Order Designating Issues for Investigation, DA 92-483 (Designation Order).

[2] See Ameritech Operating Companies, Revisions to Tariff F.C.C. No. 2, Open Network Architecture, Memorandum Opinion and Order, 7 F.C.C. Rcd 257 (Com. Car. Bur. 1991), modified by Ameritech Operating Companies, 7 F.C.C. Rcd 948 (Com. Car. Bur. 1992); Bell Atlantic Telephone Companies, et al., Open Network Architecture Tariffs, 7 F.C.C. Rcd 1512 (Com. Car. Bur. 1992) (ONA Investigation Order); Ameritech Operating Companies, et al., Open Network Architecture Tariffs, DA 92-273 (Com. Car. Bur., released March 6, 1992) (BSE Withdrawal Tariff Order).

[3] The Ameritech Operating Companies are: Illinois Bell Telephone Company, Indiana Bell Telephone Company, Incorporated, Michigan Bell Telephone Company, The Ohio Bell Telephone Company and Wisconsin Bell, Inc. These entities are occasionally referred to as "the Companies" in this direct case.

Question No. 1: Is the development of unit investment for BSEs on the basis of the (short run) marginal investment option of SCIS and SCM a reasonable method that is consistent with the Commission's ONA requirements and policies?

Response:

The Ameritech Operating Companies were not directed to reply to this question, so no response is necessary.

Question No. 2: Have carriers selected Model Offices that are representative of offices that will be used to provide BSEs?

Response:

The Ameritech Operating Companies' SCIS Model Office database is representative of offices that will be used to provide BSEs. This database contains virtually all of the 5ESS, DMS 100 and 100/200, and 1AESS host and remote switching offices in place in the Ameritech region at the time the Model Offices were developed. The years to switch replacement used in the model office development were provided by engineering and capital recovery experts (when an engineering estimate was not available). The office switch capacity at replacement was determined by projecting office growth from cutover through its estimated replacement. The growth rates are based on historical office growth patterns, as well as current engineering forecasts of lines and usage.

Question No. 3: Is the use of a cost of money that exceeds 11.25 percent reasonable?

Response:

A forward-looking cost of money is the economically correct rate to use when calculating direct costs. This rate appropriately reflects the Companies' obligation to debt and equity providers for the use of their funds. The rate is based on the Companies' forecasted debt to equity ratio and the market-determined rates for debt and equity capital. Thus, of these three components, only the debt to equity ratio is determined by the Companies. The forward looking costs of debt and equity are determined by conditions in the capital markets.

In contrast, the authorized rate of return is the relationship of the sum of the Companies' debt cost and profits to the firms' total investment. This computation is not comparable to the cost of money, which is based solely on the direct cost and investment. The rate of return reflects profitability after common overheads have been paid, whereas the cost of money does not. Finally, a forward-looking cost of money factor is appropriate whether it exceeds or is less than the authorized rate of return. Therefore, the cost of money is the economically correct rate to use.

The Ameritech Operating Companies used a cost of money factor in two phases of the cost development process: (1) as an input into the SCIS Model Office; and (2) as an input in converting investment into direct annual costs.

The Companies used SCIS to develop the engineered, furnished and installed (EF & I) investment for many of the BSEs. Forward-looking cost methodology is embodied in SCIS in two ways: (1) as the switch vendors release information regarding new software generics and equipment capacities, SCIS incorporates it into the model; and (2) as vendors release new price lists, they are incorporated into the SCIS model. When the Ameritech Operating Companies performed their cost studies, they used the most current vendor software generic, equipment capacity and price list available within SCIS to calculate the forward-looking BSE investment.

Because the BSE investments were developed using forward-looking cost methodology, it is appropriate to use a forward-looking cost of money factor when determining annual costs. The only place where SCIS uses the cost of money factor is in its Model Office development of the cost per millisecond or cost per cycle. In developing these costs, SCIS uses the cost of the total present worth of investment over the economic life of the switch. The cost of money factor is applied to both the numerator and denominator in the cost equation; consequently, small changes in the input do not significantly affect the SCIS results.

The forward-looking cost of money factor is also used in the calculation of direct annual costs. Investment related direct annual costs consist of capital related costs, such as depreciation, cost of money and income taxes, and operating expenses, such as maintenance. The forward-looking cost of money is used to calculate the cost of money portion of the annual costs. In the case of the BSEs, use of a different cost of money factor would not change the rates due to the way the overhead loading factor was developed. The Ameritech Operating Companies' local switching loading factor was developed by dividing the local switching fully distributed costs annual charge factor (ACF) by the local switching direct ACF.[4] If the Companies used the authorized rate

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[4]See the Ameritech Operating Companies' Transmittal No. 499, dated December 18, 1990, Exhibits 3-3 and 3-4.

of return of 11.25 percent, and this use changed the local switching direct ACF downward, then the local switching loading factor would have been proportionately higher. The result would be the same total direct and indirect unit costs found in the Companies' TRP. Since changing the cost of money does not change the Companies' total direct and indirect unit costs, the use of a cost of money factor other than the authorized rate of return does not produce excessive BSE costs. This is demonstrated by Attachment 1.

Question No. 4: Should 1ESS and/or 1AESS switch costs be included in the development of BSE rates?

Response:

The decision to include analog technology costs in the direct study was not made arbitrarily. The cost methodology assumptions used in conjunction with any given pricing decision must be consistent with the question being asked. In the case of ONA, the question posed was: "What costs are appropriate to use to allocate or unbundle a revenue requirement?" The question was not: "What is the price floor for the BSEs?" Under these circumstances, and particularly given the Companies' commitment to price BSEs in accordance with fully distributed costing principles, the inclusion of analog technology in the direct cost study was appropriate.

There are currently over 150 1AESS switches in the Ameritech region.[5] Although these offices are being replaced by digital machines when it becomes economic to do so, the Companies project that at least 75 of these switching machines, equipped to serve approximately 3.8 million lines, will still be in place at the end of 1996. The investment associated with the 1AESS

[5]The Companies' SCIS Model Offices do not contain any data relating to the 1ESS switch.

switching systems is now reflected on the Companies' books and is allocated to the Local Switching category in accordance with the Commission's Part 36 and Part 69 rules. This investment constitutes a portion of the revenue requirement that was unbundled into BSAs and BSEs under the Companies' ONA Plan. In their direct cost studies, the Companies included forward-looking 1AESS costs in an attempt to match, as close as possible, the investment being unbundled. To the extent that BSEs will be provided from 1AESS switches for the foreseeable future, it is reasonable to include these costs in the study.

The Bureau asks carriers to demonstrate how their inclusion of 1AESS investment furthers each of the Commission's four goals for ONA. As stated above, the cost study assumptions employed were used as a means of allocating the Companies' revenue requirement among BSEs. It would be inappropriate to manipulate cost assumption decisions to achieve a particular answer. To do so produces uneconomic results and uneconomic decisions. Therefore, there is no direct relationship between the four pricing goals of ONA and the assumption to include 1AESS investment.

Attachment 2 provides a comprehensive listing of BSE costs and rates that would result from excluding 1AESS technology. It is important to note that although some BSE costs decrease, several increase significantly, contrary to the Bureau's implicit assumption in the Designation Order.[6]

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[6]The Bureau implies that the inclusion of analog costs produces excessive rates. See Designation Order at p. 3, Issue No. 4.

Question No. 5: Are the BellSouth and U S West overhead loadings excessive?

Response:

Not applicable.

Question No. 6: Have carriers adequately justified their use of nonuniform overhead loadings in pricing BSEs?

Response:

Attachment A of the Designation Order highlights the Ameritech Operating Companies' overhead loadings to direct costs ratio for the Multiline Hunt Group Overflow BSE. The Companies did not use a different loading factor for this BSE than the other local switching BSEs. However, the Companies' TRP chart Unit contains an error. In that chart, line 9 should be $0.51 instead of $0.48. In developing the TRP, the Companies annualized a previously rounded monthly total direct and indirect cost of $0.04 (see Transmittal No. 499, Exhibit 3-5) by multiplying it by twelve to arrive at the projected twelve-month total direct and indirect unit cost of $0.48. The Companies should have instead used the non-rounded monthly total direct and indirect cost of $0.04228 to arrive at $0.50736.

The overhead loadings for Multiline Hunt Group Overflow found in the TRP were calculated by subtracting the total direct recurring costs ($0.31) from the total direct and indirect unit costs ($0.48), totalling $0.17. The overhead loadings for Multiline Hunt Group Overflow using non-rounded figures is $0.1938. This was calculated by subtracting $0.31356 (total direct recurring costs) from $0.50736 (total direct and indirect unit costs). Using non-rounded figures, the ratio of overhead loadings to direct costs would be 0.6181

($0.1938/$0.31356). This ratio is comparable to the ratios of the other BSEs. Importantly, the Ameritech Operating Companies' use of the rounded monthly total direct and indirect cost did not affect the rate since the Companies did not propose a rate for this BSE.

Question No. 7: Are differences between BSE rates and unit cost differences justified?

Response:

Call Detail Recording (6.2315)

The ratio shown in Attachment B to the Designation Order is misleading. It assumes that the only costs of providing the service are the recurring switch-related costs. The CDR rate, however, is designed to recover not only these costs, but the mailing costs and a portion of one-time expenses as well.

The monthly fully distributed cost for CDR ($0.0350)[7] is only a portion of the total costs of providing the service. Additional costs for the weekly mailing of the report must also be included. This amounts to an additional $0.0161 per message. Furthermore, the one-time expense to change the billing system so as to be able to provide this service ($186,000) is not insignificant. Based on market analyses, the Companies concluded that recovering these costs strictly as nonrecurring costs would be a significant barrier for some customers. Thus, the nonrecurring charge was set at $2000. The remaining

[7]Since CDR is used both for packet switching and Feature Group B/D, the unit costs were demand weighted to arrive at a single rate. The Feature Group B/D cost was $0.033475 and the packet switching cost was $0.039776. The resulting demand weighted cost was $0.034964, which was rounded to $0.0350.

costs amount to $0.1575 per message. The total recurring monthly cost for CDR is $0.2086. Thus, the cost is, in fact, equivalent to the tariffed rate.

Multiline Hunt Group Overflow (.5909)

The ratio shown in Attachment B to the Designation Order is incorrect.[8] There is no charge associated with the Ameritech Operating Companies' Multiline Hunt Group Overflow BSE. This is because the unit costs and the fully distributed costs for this feature were $0.03 and $0.04 per month, respectively, and it was determined that such costs were not significant enough to charge a rate for this feature. Because there is no charge for the capability, the ratio should be zero.

Multiline Hunt Group Preferred (.5070)

Due to similar functionality, the rate for Multiline Hunt Group Preferred was set to equal the rates for the other hunt group features -- Multiline Hunt Group and Multiline Hunt Group Circular -- using a weighted average of their costs. This calculation is shown in Attachment 3.

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[8]The Bureau staff apparently inadvertently miscalculated the ratio of rate to unit cost by using information displayed on Line 4 of the TRP chart RATIO instead of Line 3 of that chart. Line 4 represents the ratio of Direct Annual Recurring Costs to Total Unit Investment, which in this case is 0.283636. Line 3 is the Annual Rate, which is $0.00. Dividing the Line 4 amount by the Total Direct and Indirect Unit Costs amount displayed on TRP Chart UNIT, Line 9 ($0.48) produces the incorrect ratio of .5909 displayed on Attachment B of the Designation Order.

Other Issue No. 3: Should Ameritech be allowed to tariff Call Detail Recording (CDR) as a BSE?

Response:

The Bureau asks the Ameritech Operating Companies to describe why they believe the tariffing of CDR is consistent with the Commission's decision in its Billing and Collection Detariffing Order.[9]

CDR provides switched access customers with various details relating to a call, including the calling number, called number, date, connect time, duration of call, access minutes of use and carrier identification code. The Companies have tariffed CDR as a BSE available with Feature Group B and Feature Group D with 900 access (Circuit Switched-Trunk BSA). CDR is also available with the Companies' Packet Switching BSA. In conjunction with this BSA, CDR provides calling and called network terminal number, calling and called Data Network Identification Code (DNIC), protocol conversion indicator, sent paid/reverse charge indicator, chargeable kilosegments, hours, date and time of call, the number of chargeable calls and priority indication. CDR is delivered on magnetic tape or as a paper printout on a weekly basis.

While CDR may be used for billing and collection (B&C) purposes, it is not identical to the Ameritech Operating Companies' untariffed B&C recording service. The CDR features and functions listed above were derived from the "Master List" of capabilities requested by enhanced service providers (ESPs) in the ONA proceeding. CDR was developed for ESPs, and is Feature Group specific. In contrast, the untariffed B&C recording service requires all of the customer's traffic to be recorded, is not Feature Group specific, and

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[9]See Designation Order at p. 5.

contains additional data designed explicitly for billing purposes. Moreover, the B&C service is provided in the EMI format (an industry standard format for the transmission of data from an interexchange carrier to a local exchange carrier) on a monthly basis.

The Ameritech Operating Companies believe that CDR is distinct from their other, untariffed, B&C products. The Companies believe that tariffing CDR is consistent with the Commission's May 8, 1990 order approving their ONA plan, and yet is not inconsistent with the Billing and Collection Detariffing Order.

CONCLUSION

The Ameritech Operating Companies submit that the foregoing material is responsive to the questions raised in the Designation Order. The Companies' rates and tariffs should be permitted to remain in effect as filed.

Respectfully submitted,

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Date: May 18, 1992

As Filed in Ameritech's Transmittal 499 Exhibit 3–4

Example 1

A.	Local Switching Fully Distributed Cost Annual Charge Factor	0.4365317
B.	Local Switching Direct Annual Charge Factor	0.2698336
C.	Local Switching Loading Factor (A/B)	1.617781

Example of Local Switching Loading Factor development due to change in Cost of Money component in Direct Annual Charge Factor

Example 2

D.	Local Switching FDC ACF (from line A above)	0.4365317
E.	Local Switching Direct ACF (due to change in COM assumption)	0.2600000
F.	Local Switching Loading Factor (D/E)	1.678968

	Inv. G	Direct Costs H=(G*B)	Overhead Loadings I=(G*(C−1)	Total Direct & Indirect Costs J=H+I
Example 1	$130.00	35.08	$21.67	$56.75

	Inv. K	Direct Costs L=(K*E)	Overhead Loadings M=(K*(F−1)	Total Direct & Indirect Costs N=L+M
Example 2	$130.00	33.80	$22.95	$56.75

ONA COSTS AND RATES WITHOUT 1AESS SWITCHES

BSE	FILED COST	RECALCULATED COST	PERCENT CHANGE	FILED RATE	RECALCULATED RATE
CALLING BILLING NUMBER DELIVERY (ANI)	0.002412	0.000726	(69.90)	0.002412	0.000726
CALLED DIRECTORY NUMBER DELIVERY	0.002415	0.000659	(72.71)	0.002415	0.000659
PREFERENTIAL HUNTING	42.60	64.68	51.83	21.60	43.20
CENTRAL OFFICE ANNOUNCEMENT	308.16	184.08	(40.26)	308.40	186.00
MAKE BUSY ARRANGEMENT	76.32	73.80	(3.30)	78.00	73.80
UNIFORM CALL DISTRIBUTION	32.16	51.84	61.19	32.40	52.20
QUEUING	1,649.76	249.96	(84.85)	1,650.00	252.00
REGULAR MULITLINE HUNT GROUP	21.72	42.72	96.69	21.60	43.20
CIRCULAR MULTILINE HUNT GROUP	23.04	50.88	120.83	21.60	43.20
MULTILINE HUNT GROUP OVERFLOW	0.48	0.60	25.00	0.00	0.00
NONHUNTING NUMBER	0.00	0.00	0.00	0.00	0.00
REMOTE ACTIVATION OF MESSAGE WAITING	171.24	327.72	91.38	174.00	330.00
REMOTE ACTIVATION OF MESSAGE WAITING – EXPANDED	2,962.80	3,171.84	7.06	3,000.00	3,240.00
THREE WAY CALL TRANSFER	31.92	15.12	(52.63)	31.80	15.60
CALL HISTORY PACKAGE DELIVERY	478.44	709.80	48.36	492.00	720.00
CALL HISTORY PACKAGE DELIVERY – EXPANDED	4,029.24	4,515.72	12.07	4,116.00	4,620.00
ANSWER SUPERVISION WITH LINE SIDE INTERFACE	19.08	19.08	0.00	19.20	19.20
CALL DETAIL RECORDING	0.0335	0.0335	0.00	0.2086	0.2086
FLEXIBLE ANI	0.00	0.00	0.00	0.00	0.00

Note: Ameritech did not include 1ESS investments and costs in its filing.

ATTACHMENT 3

HUNTING CALCULATION

	ANNUAL DEMAND	FDC	
REGULAR	145596	1.81	263529
CIRCULAR	2784	1.92	5345
PREFERENTIAL	24	3.55	85
	148404		268959
DEMAND WEIGHTED AVERAGE			1.81